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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	**DOMINGUES ET AL.**	**Examiner: Wong, Leslie A.**	
Serial No.:	**10/771,859**		
Filed:	**February 3, 2004**	**Group Art: 1794**	
For:	**FOOD PRODUCTS WITH BIOCONTROL PRESERVATION AND METHOD**	**Docket No.: P5630USA-D1 (PIL0009/US/2)**	

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I HEREBY CERTIFY THAT ON FEBRUARY 3, 2009, THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE U.S. POSTAL SERVICE AS FIRST CLASS MAIL, ADDRESSED TO MAIL STOP: APPEAL BRIEF-PATENTS, COMMISSIONER FOR PATENTS, P. O. BOX 1450, ALEXANDRIA, VA 22313-1450

Mary C. Deutsch
MARY C. DEUTSCH

RESPONSE TO NOTIFICATION OF NON-COMPLIANT APPEAL BRIEF

Dear Sir or Madam:

This paper is submitted in response to the Notification of Non-Compliant Appeal Brief mailed January 13, 2009, in the above-identified patent application, which is under appeal.

It is further submitted that this response is timely filed within the one-month period set out in the Notification from the date of the Notification. No fee is believed to be due at this time. If any fees are required, please charge them to Deposit Account No. 50-1775 and notify us of the same.

Also, in accordance with the procedure stated at M.P.E.P § 1205.03, this paper is submitted to be supplemental to the Appeal Brief filed by Applicants on December 8, 2008, without submission of an entire new brief.

The following replacement sections (VI and VII) are respectfully requested to replace the previously filed sections (VI and VII) that appeared in the Appeal Brief filed by Applicants on December 8, 2008. In particular, the replacement sections correct reference to claim 30. Claim 30 was erroneously referred to in the Final Official Action

as a rejected claim in the ground of rejection, and was also, therefore, included in the ground of rejection as set forth in the Appeal Brief. However, claim 30 is a canceled claim, and not a rejected claim, and correction is made herein below. The replacement sections also number the ground of rejection (1) and the corresponding portion of the argument section (1).

VI. Grounds of Rejection to be Reviewed on Appeal

1. Whether claims 1-10, 12-23 and 31-36 are unpatentable under 35 U.S.C. 103(a) over Hutkins et al. (U.S. Pat. 5,186,962; herein after "Hutkins") in view of Franjione et al. (Franjione, J. and Vasishtha, N., The Art and Science of Microencapsulation, Technology Today, printed from **http://www.swri.org**, 01/03/2008; hereinafter "Franjione") and Gaier (U.S. Pat. 5,645,877; hereinafter "Gaier").

VII. Argument

1. Rejection of claims 1-10, 12-23 and 31-36 under 35 U.S.C. 103(a) as being unpatentable over Hutkins in view of Franjione and Gaier.

Claims 1-10, 12-23 and 31-36

The present claims relate to food products that are protected against potentially harmful microbial growths by including viable nonharmful bacteria or microorganisms in the food products (p. 5, lines 21-22). The growth of the nonharmful microorganisms helps to inhibit the growth of pathogenic organisms because of competition (p. 7, lines 9-10). The nonharmful microorganisms may also produce by-products that inhibit the growth of harmful microorganisms (p. 7, lines 10-11). The nonharmful microorganisms are selected such that they will inhibit the growth of potentially pathogenic or toxin-producing bacteria if the food product is temperature abused (p. 7, lines 1-3).

The nonharmful microorganisms are encapsulated and dormant up to about 10° C., at which point the microorganisms are released and rendered active (p. 11, lines 17-22). Because the microorganisms are encapsulated, the hydration of the culture is slowed and the microorganisms are better protected from inactivation by heat processing during packaging operations (p. 6, lines 3-20). In one embodiment, the encapsulation material dissolves prior to any temperature abuse of the product (p. 10, lines 9-11). In other embodiments, the encapsulation material forms a gel that keeps the microorganisms from dispersing until exposure to temperature above about 10° C., at which point the gel releases the microorganisms (p. 11, lines 17-22).

Claims 1-10, 12-23 and 31-36 were rejected under 35 U.S.C. 103(a) as being unpatentable over Hutkins in view of Franjione and Gaier. However, the Examiner has not established a *prima facie* case to support the rejection that the claims were obvious at the time the invention was made.

Claim 1

Claim 1 is the sole independent claim in the rejected claims. The claim recites a food product comprising a pasteurized hydrated, edible food item being at a temperature

state of less than 10° C. The food product comprises encapsulated, dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C. If the food product reaches a temperature above 10° C., the nontoxic microorganisms release by-products into the food product that inhibit the growth of harmful microorganisms.

The primary reference, Hutkins, does not disclose providing encapsulated microorganisms, nor dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C. Hutkins, in contrast, discloses a food product that contains bacteriocin-producing bacteria that produce the bacteriocin under all conditions, including at refrigeration temperatures (below 10° C.). The bacteriocin is produced specifically without the production of acids, and without changes in pH (col. 12, lines 37-42, 50-55). The bacteria are expressly required to be active at temperatures of 1 ° - 7 ° C. (col. 4, lines 60-63). The skilled artisan would not have a reason to modify the bacteria described by Hutkins to be like those in the present claim 1, because such a modification would destroy a fundamental objective of the reference, which is to have active bacteria at refrigeration temperatures. Similarly, the skilled artisan would not have a reason to modify Hutkins to encapsulate bacteria, because encapsulating the disclosed bacteria would inhibit production of bacteriocin at refrigeration temperatures, which again would destroy the fundamental objective of the reference.

Thus, it is respectfully submitted that claim 1 is not rendered obvious by the Hutkins disclosure. Hutkins does not disclose all of the features of claim 1. In particular, the reference does not disclose the use of dormant, encapsulated microorganisms. In addition, neither Franjione nor Gaier alone or in combination bridge the gap between Hutkins and claim 1. Neither reference discloses dormant, encapsulated microorganisms, as discussed in more detail below. Furthermore, there is no reason or evidence in the references themselves that warrants combining the references as set forth in the Final Office Action.

Franjione is cited for disclosing the use of encapsulation in food products to shield an active ingredient from the surrounding environment (p. 1). The method of encapsulation taught is co-extrusion. The encapsulated, active ingredient may be released from encapsulation by mechanical rupture, dissolution or melting of the capsule

wall or by diffusion through the wall (p. 1). Franjione, however, does not teach encapsulating dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C., and wherein, if the food product reaches a temperature above 10° C., the nontoxic microorganisms release by-products into the food product that inhibit the growth of harmful microorganisms. The reference provides no information of any kind that would lead the skilled artisan to encapsulate microorganisms of any kind, let alone microorganisms that are dormant except at certain temperatures. Thus, the reference does not remedy the shortcomings of Hutkins. Furthermore, Hutkins teaches away from a combination with Franjione because encapsulating the bacteria in Hutkins would inhibit production of bacteriocin at refrigeration temperatures, which is desired in Hutkins. Therefore, Franjione does not render claim 1 of the present invention obvious either alone or in combination with Hutkins and Gaier.

Gaier is cited for disclosing the use of *Streptococcus thermophilus* as a lactic bacteria in preparation of fermented food products (col. 3, lines 38-44). The process described in Gaier is very different from the presently claimed use of microorganisms, however, because Gaier uses the microorganisms to instead produce the food product (col. 1, lines 28-33). There is no reason then to include a dormant stage or to encapsulate the microorganisms during production of the food product. Thus, Gaier does not disclose encapsulating dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C., and wherein, if the food product reaches a temperature above 10° C., the nontoxic microorganisms release by-products into the food product that inhibit the growth of harmful microorganisms. Therefore, Gaier does not remedy the shortcomings of Hutkins and Franjione. Additionally, there is no motivation to combine the teachings of Gaier with Franjione and Hutkins because there is no reason to include a dormant stage or encapsulate the bacteria in Gaier. Thus, Gaier does not, alone or in combination with the other references, render claim 1 obvious.

It is, therefore, respectfully submitted that even in combination, Hutkins, Franjione, and Gaier do not disclose all of the features of claim 1, which include being a food product that is at a temperature state of less than 10° C, and that comprises encapsulated, dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C., and wherein, if the food product reaches a

temperature above 10° C., the nontoxic microorganisms release by-products into the food product that inhibit the growth of harmful microorganisms. Also, there is no reason provided or evidence found within the references themselves to support combining the references. The function of the primary reference, Hutkins, is destroyed by arbitrarily combining the reference with separate features from the secondary references, Franjione and Gaier, through hindsight reconstruction. A skilled artisan would have no reason to completely change the construction and function of the products of the references in order to combine them and arrive at the presently claimed invention. It does not make sense to combine the references, nor is there any suggestion in the references to combine the references. Hutkins even teaches away from a combination with Franjione. Therefore, Appellants respectfully submit that the Examiner did not establish a *prima facie* case of obviousness in order to render claim 1 unpatentable. Accordingly, reversal of the rejection of record with respect to claim 1 is believed proper and respectfully requested.

Claims 2-10, 12-23 and 31-36

Claims 2-10, 12-23 and 31-36 depend from claim 1 and are similarly patentable over Hutkins in view of Franjione and Gaier, as discussed above with regard to claim 1. Accordingly, reversal of the rejection of record with respect to dependent claims 2-10, 12-23 and 31-36 is also believed proper and respectfully requested.

Conclusion

The above replacement sections (VI and VII) are believed to overcome the objection to the earlier sections (VI and VII) that appeared in Applicants' Appeal Brief filed December 8, 2008. Consideration of Applicants' Appeal Brief taken with the above replacement sections is believed proper and respectfully requested.

In view of this response and Applicants' Appeal Brief, it is respectfully submitted that all of the pending claims are in condition for allowance. Favorable action is requested.

Respectfully submitted,

DAVID J. DOMINGUES, ET AL.

Dated: February 3, 2009

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